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fernal Report

August 2000

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Back to school

With the start of a new school year I would like to take this opportunity to tell you about Fernald's Education Outreach activities which are a key component of our Community Relations Program. Fernald has been a partner with area schools for the past 15 years. Just last year we reached 15,000 students and teachers in programs such as Partnership In Education, the Greater Cincinnati Regional Science Bowl and Junior Achievement. Fernald volunteers served as judges for area Science Fairs and represented Fernald at events such as Earth Day, Waterfest and numerous Career Days.



What can our area schools expect in 2000-2001? Partnership In Education is back and is one of many programs that we use to interest kids in science and math plus introduce them to subjects they might not otherwise experience. This year we have after school programs planned at Ross Middle School, Crosby Elementary and Miamitown Elementary. The program allows our employees to bring tough subjects to the kid's level with a lot of fun at the same time. Since we started the Partnership In Education program, we have hosted over 100 different programs and reached nearly 1,000 students.

Like Partnership In Education, Minorities for Math, Science and Engineering (M²SE) is a program aimed at getting kids interested in subjects that might otherwise intimidate them. The Department of Energy has long stressed the need for educating our young people so that they will be able to tackle issues that will be facing our country in the future. M²SE is proudly supported by DOE and Fluor Fernald both financially and with volunteer time.


Through our gift program last year Fernald provided area schools and non-profit organizations with over \$600,000 in excess equipment. Computers, machinery, lab equipment and hardware have been placed in eager hands thanks to this immensely successful program.

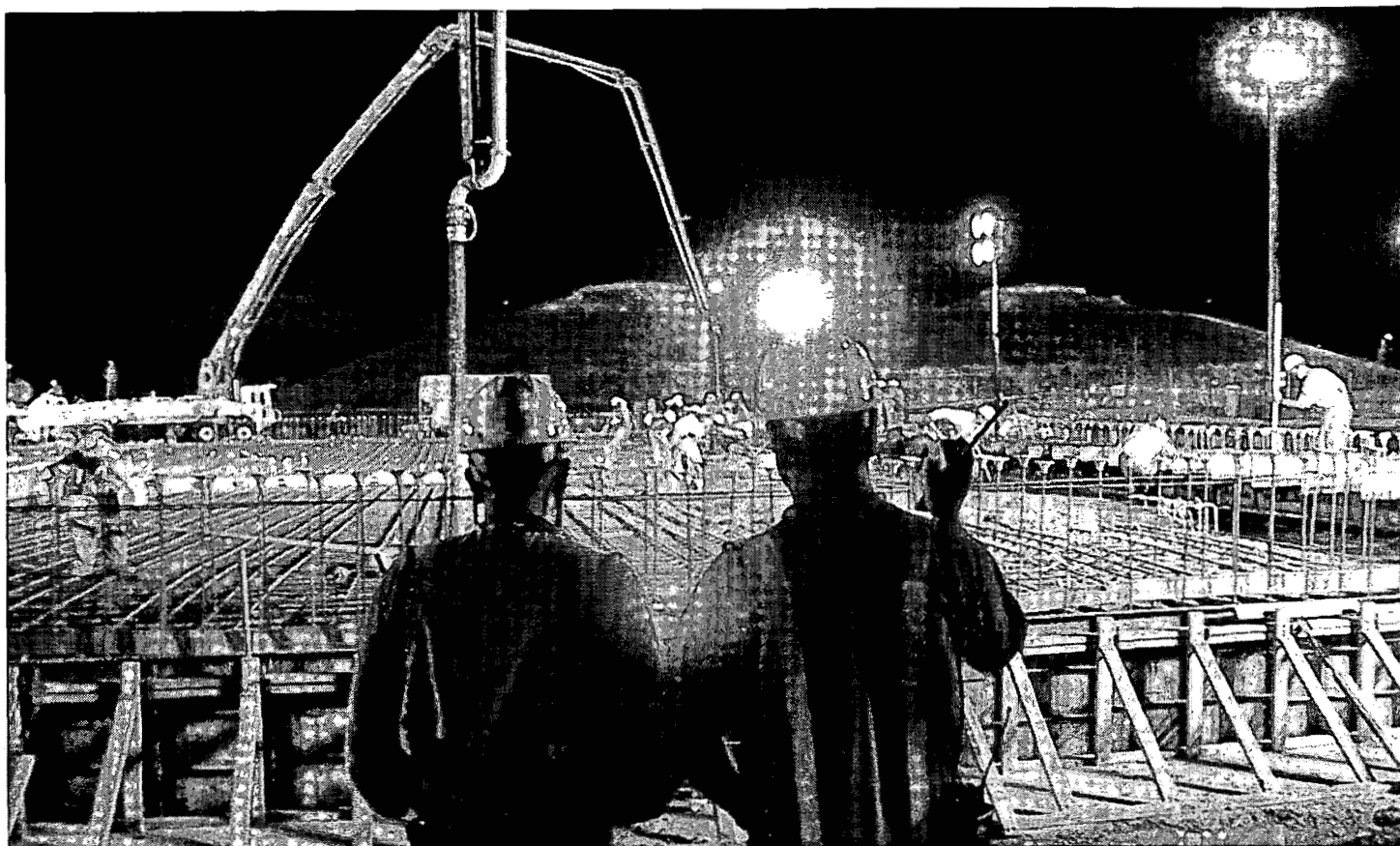
There is rich cultural history surrounding the Fernald site. Continuing this year as we have for the last three years, we will be sponsoring an "Archaeology: Can You Dig It?" program in partnership with the Hamilton County Park District.

Teachers attend a workshop to receive instructions on using over 20 lessons with their students. To date, over 8,000 students have benefited from this endeavor.

Finally, we have some extremely intelligent high school students in the Tri-State and nowhere is it more apparent than at the regional DOE Science Bowl competition. In early February we will host our 10th Science Bowl. For the past two years Sycamore High School has beaten out over 30 area schools to move on to the finals in Washington, D.C. This truly is a great event for the students, teachers, parents, and for the many volunteers from Fernald that help stage this competition.

We are looking forward to another good year for education. We have a lot to offer our area schools and our employees are eager to share their knowledge and love of science, engineering and their trades.


Jack Craig
Director, DOE-Fernald



Remediation Proposal for Silos 1 and 2 Approved

On July 13, regulators with the U.S. and Ohio Environmental Protection Agencies approved final plans to remove and treat nearly 9,000 cubic yards of radioactive waste stored in Silos 1 and 2. The waste, which consists of radium- and thorium-bearing residues from the refining of pitchblende uranium ore, will be mixed with cement and chemical additives for safe shipping. Once treated, the waste will be shipped to the Nevada Test Site for disposal.

Approval of the Proposed Plan and Record of Decision followed two meetings with Fernald and Nevada stakeholders and officials with Fluor Fernald and the U.S. Department of Energy.

Nina Akgunduz, DOE team leader for the Silos Project, said "This was a great accomplishment. It was actually nine months ahead of schedule. It's a good example of how different entities, working together as a team, can make something happen. Without the stakeholders' support throughout the comment period, without the EPA expediting their review and without DOE headquarters expediting the review process, this could not have happened."

Construction also began on three concrete pads east of Silos 1 and 2 as part of the Accelerated Waste Retrieval (AWR) Project. Plans call for the waste in Silos 1 and 2 to be removed and placed in four carbon steel tanks for safe storage. The 750-gallon tanks will be placed on one pad, while the other two pads will support the air handling and radon control systems. Regulators are still reviewing the Remedial Design package for the project.

Construction is also underway on the gantry structure over Silo 3. The structure will be used to retrieve the waste from inside the silo. Excavation has also begun for construction on the interim storage pad, located just west of Silo 3. The pad will be used to temporarily store Silo 3 waste prior to shipment.

Above: Safety personnel watch as concrete is poured from chutes onto the Transfer Tank Area of the AWR Project (7385-D0137).

Cleanup **Progress** Update



*Above:
Excavation continues at Pits 1 & 3 of the Waste Pits
Remedial Action Project (6944-d1192).*

*Right:
Demco laborers conduct on-going cleaning activities in
Plant 5 after interior equipment and structural steel
dismantlement (6401-d567).*

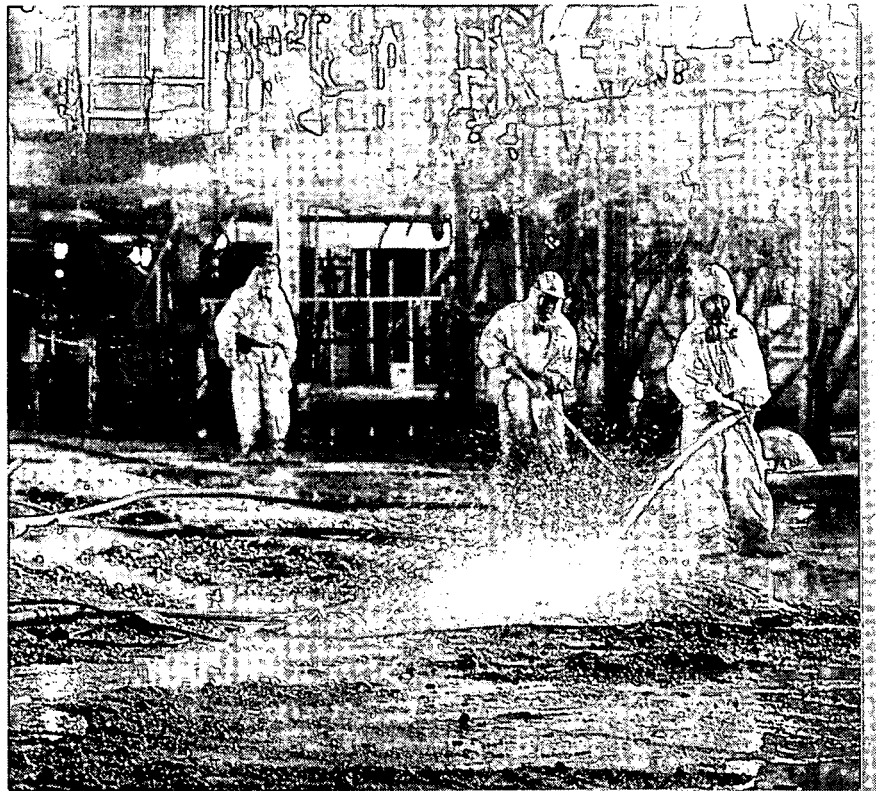
Waste Pits Remedial Action Project (WPRAP)

- ☐ Shipped train 26 to Envirocare of Utah (see Fernald Shipments section for details)
- ☐ Continued the excavation of Pits 1 & 3

Demolition Projects

Decontamination & Dismantlement (D&D)

- ☐ Plant 5 Complex —
 - ◇ Continued the removal of interior equipment, asbestos contaminated piping and interior transite inside of Plant 6
- ☐ Building 28A, 28B and 28N —
 - ◇ Initiated removal of asbestos contaminated materials inside of 28B
 - ◇ Began interior D&D activities on 28B
- ☐ Nuclear Fuel Services Tanks (former UNH tanks)
 - ◇ Completed dismantlement of the four tanks and structural steel



Aquifer Restoration/ Wastewater Project

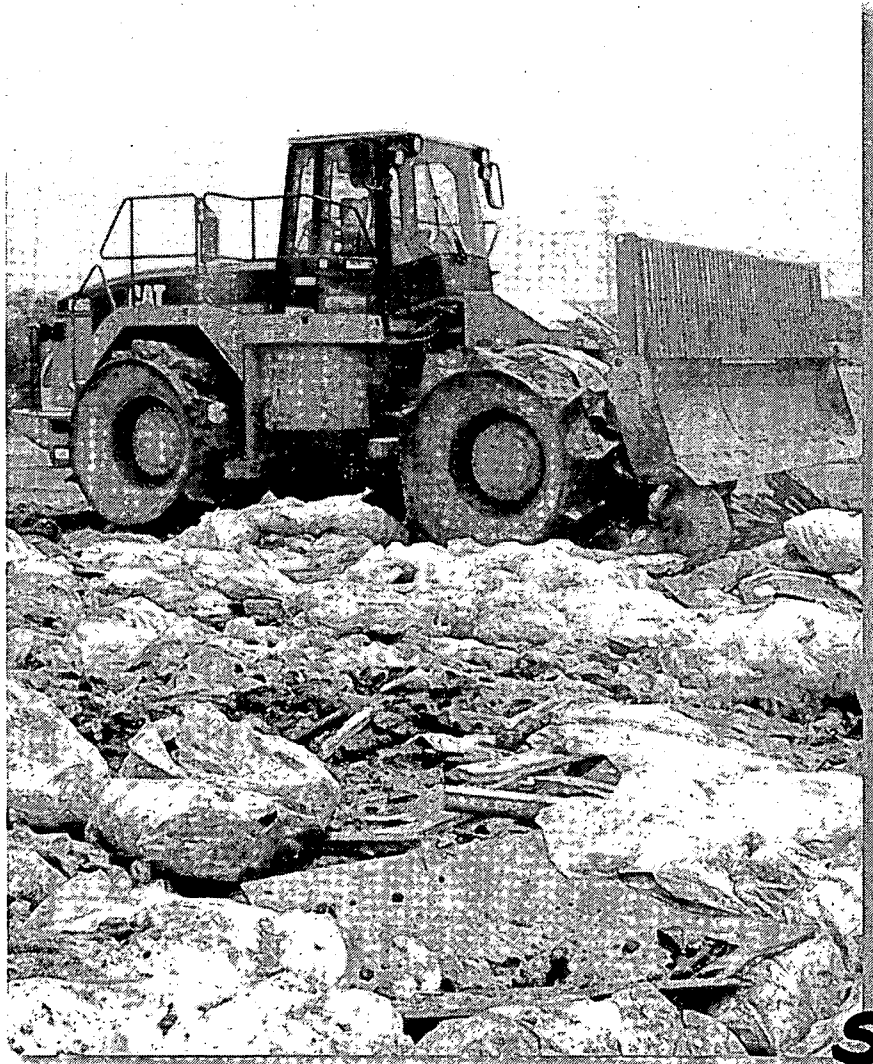
- Completed maintenance on re-injection well #12
- Began preliminary preparations to conduct a multiple-well pumping test in the Pilot Plant Drainage Ditch Plume

Soil and Disposal Facility Project

- Began construction on the On-Site Disposal Facility's Material Transfer Area for staging bulk debris
- Completed excavation of Stockpile #3 in the Southern Waste Units
- Completed the foundations for Valve House 1 & 2 of the Enhanced Permanent Leachate Transmission System
- Conducted demonstration of Passive Magnetic Resonance Anomaly Mapping
- Issued On-Site Disposal Facility Cell 1 Cap Request for Proposal

Above right: The excavation at Stockpile #3 has been completed, but dust control measures continue (6734-d1203).

Right: Bagged trash is being compacted at Cell 2 of the On-Site Disposal Facility (6319-d2546).



Cleanup **Progress** Update

Waste Generator Services

☐ Thorium Legacy Waste Project —

- ◆ Completed shipments of thoria gel to Nevada Test Site
- ◆ Finalized Program Plan for Management of the Legacy Thorium Waste Inventory

☐ Nuclear Materials Disposition —

- ◆ Participated in the one-year anniversary celebration of transfer of materials to DOE's facility at Portsmouth, OH. The celebration, held at the Portsmouth site, included DOE representatives from Portsmouth, Oak Ridge and Fernald, as well as contractors, government and stakeholder representatives. Approximately 2,800 metric tons uranium were transferred between June 1999 and June 2000, representing almost 74% of the total amount to be transferred.

☐ Waste Treatment and Storage—

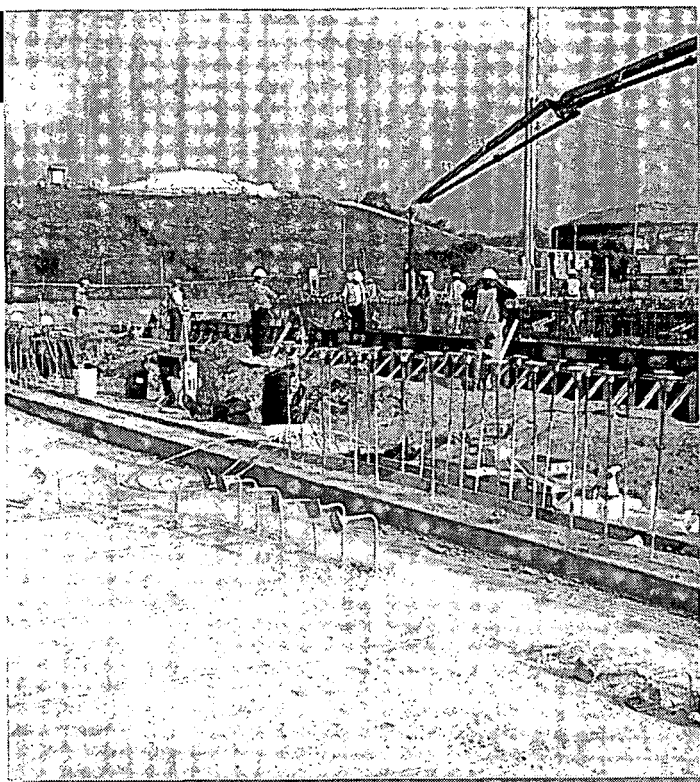
- ◆ Received approval to ship 19,000 gallons of liquid mixed waste to Toxic Substance Control Act Incinerator in Oak Ridge, TN
- ◆ Inspected 242 out of 338 containers on behalf of Nuclear Materials Disposition Project, to evaluate hazards related to movement and storage
- ◆ Completed detailed examination of the site's waste inventory to identify waste streams that can be treated on site at the Advanced Wastewater Treatment Facility in lieu of off-site shipment/treatment



Left: NMD team members fill the void space between the inner drum and outer overpack drum after they have completed the material inspection process (7368-d131).

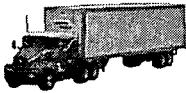

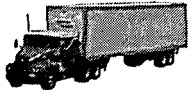

Silos Project

- Received USEPA approval of the Record of Decision Amendment for Silos 1 and 2
- Initiated site preparation construction activities for the Silo 3 Project
- Continued site preparation construction activities for the Accelerated Waste Retrieval project; continued grading and earthwork activities and poured foundation for the Transfer Tank Area building.



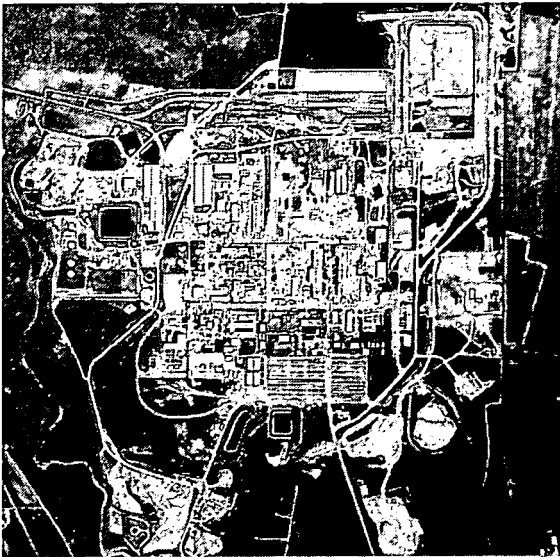
*Left:
Workers place a concrete
foundation at the Tank
Transfer Area located
near the silos
(7385-d189).*

Fernald Shipments — July-2000

Contents / Destination	Shipment Mode	No. of Shipments	Monthly Total	FY00 Total
Low-Level Waste (Nevada Test Site)		16	20,317 cu. ft.	78,075 cu. ft.
Liquid Mixed Waste - Toxic Substance Control Act Incinerator at Oak Ridge		0	0 gal.	0 gal.
Nuclear product/materials (Portsmouth)		1	30,905 net lbs. or 14 metric tons uranium	3,642,167 net lbs. or 1,564.4 metric tons uranium
Waste Pits Project (Envirocare of Utah, Inc.)		1 unit train (60 railcars)	6,452 tons	104,832 tons (976 railcars)

NOTE: One box shipped to Portsmouth in May in error; shipped back to us in June. Accounts for 1.3 MTU.

Graphics # 5949



Above: When the North Entrance Road is closed, all non-construction traffic will enter the site using Willey Road (7381-1).

Traffic impact study complete

A traffic study used to evaluate the feasibility and potential impact associated with the accelerated closure of the North Entrance Road off Route 126 has been completed. In order to construct Cell 5 of the On-Site Disposal Facility, which currently falls in the path of the existing road, the road must be reconstructed. Original plans called for constructing a new southern portion of the road with closure in 2006. However, further investigation was warranted due to declining site population through 2006 and the potential cost savings of early closure.

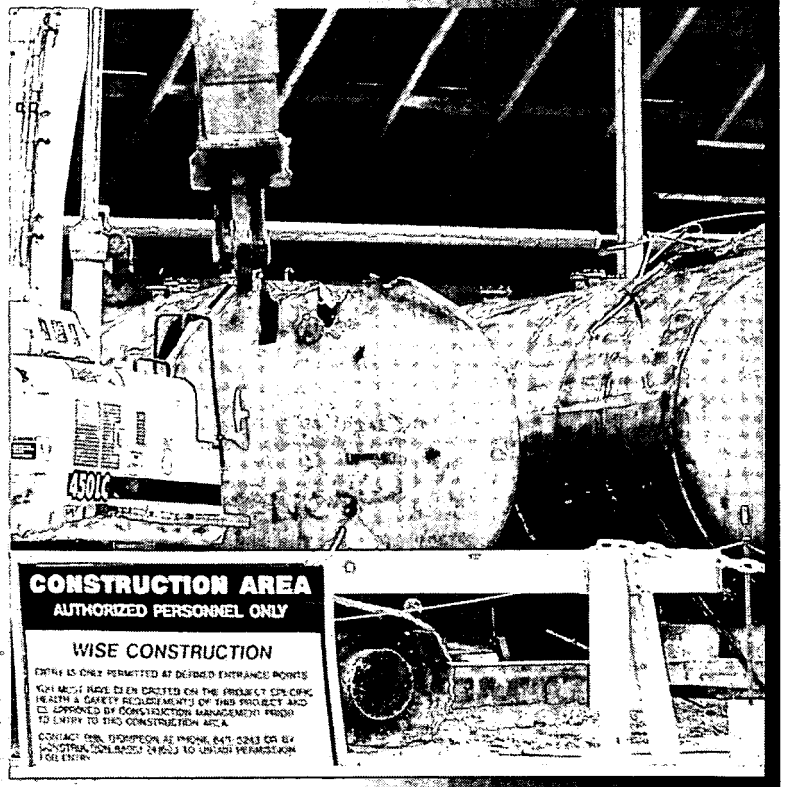
The study's recommendation was to close the access road, which would eliminate the design, construction, and future removal of the new portion of roadway and potentially save more than \$2 million. The study also recommended upgrading the intersection of Route 128 and Willey Road. Based on the most recent Cell 5 construction schedule, closure of the road could be delayed until 2003 or 2004. The topic of mutual aid was not covered in the study but DOE has proposed an alternate route for emergency response vehicles and is independently discussing it with the local township trustees and fire departments.

DOE is soliciting feedback from the public and site employees on accelerating closure of the North Entrance Road. The Traffic Study for Potential Accelerated Closure of the North Entrance Road is available at the Public Environmental Information Center, 513-648-7480.

UNH tanks dismantled

During production days, uranium-containing residues were dissolved in nitric acid to form a uranyl nitrate hexahydrate solution known as UNH. At one time, there were approximately 200,000 gallons of UNH stored in 19 tanks in and outside the Plant 2/3 refinery. In 1994 the UNH was neutralized and converted into a non-hazardous solid form that was disposed of as low-level waste. The empty tanks became a component of the Decontamination & Dismantlement Project.

Four of the largest tanks were located at the south end of the Plant 1 Pad. They measured 10 feet in diameter and were nearly 30 feet long. Preparatory and D&D activities included removing hold-up material left in the tanks and isolating all utilities, removing asbestos from the end caps and dismantling a small pump house and a large metal shield that covered the tanks. Cutting up the tanks proved to be a challenge. Using the traditional shears was very time-consuming and labor-intensive, so a plasma arc torch was brought in to complete the dismantlement. John Trygier, DOE-FEMP D&D project manager, commented on the project, "The D&D Project Team took another significant step forward in completing demolition of the former production facilities with this project. The team was successful in evaluating the hazards and methods of demolition that provided for a safe and timely completion of the project. They also learned many lessons in the complexity and challenges that await them in the remaining tanks and piping systems of the Plant 2, 3, 8 and general sump areas."



Above: The four UNH tanks were mounted on a concrete dike approximately 60 feet long (7316-d0033).

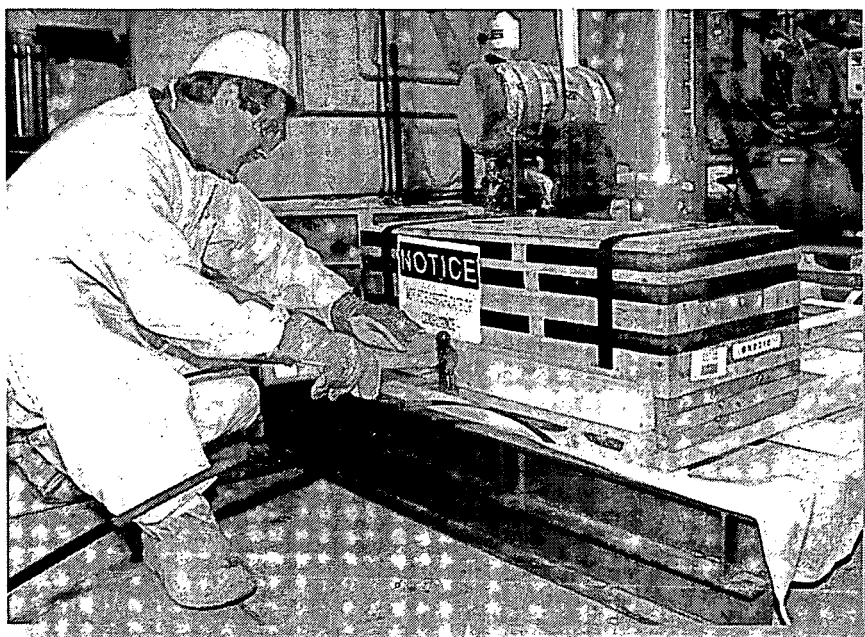
DOE sponsors post closure stewardship technology needs meeting

Regulators, stakeholders and technology providers will be among the interested parties meeting on September 19 and 20 at the Kingsgate Conference Center on the University of Cincinnati campus to address Fernald's and Mound's post-closure technology needs. The meeting will provide a forum to review lessons learned from industry and numerous DOE sites, including Grand Junction and Weldon Springs, and will help Fernald focus on post-closure technologies such as monitoring, maintenance and security. Stakeholders, technical experts, regulators and other interested participants from across the DOE complex will discuss strategies for technologies and technology implementation and identify potential questions and challenges.

The agenda includes speakers, Jim Werner, DOE Director of the Office of Long Term Stewardship; Doug Sarno, technical consultant for the Fernald Citizens Advisory Board; as well as representatives from Sandia National Lab, Idaho National Engineering and Environmental Laboratory, University of Cincinnati, Florida International University, Fluor Fernald, Inc. and Cinergy. A tour of the Fernald Environmental Management Project will also be offered.



Above: Long-term stewardship technologies to monitor physical changes, runoff controls and drainage layer are identified as needs for Fernald's On-Site Disposal Facility (7317-009).



Reaching a milestone...Safely

On June 2, 2000, the Nuclear Materials Disposition Project celebrated the one-year anniversary of shipment of nuclear product materials to DOE's facility at Portsmouth, Ohio. Since shipments began on June 2, 1999, 2807.8 metric tons of uranium (74% of the total), have been shipped to Portsmouth for interim storage under the auspices of DOE-Oak Ridge's Uranium Management Division. Most notably, these materials have been repackaged and transferred safely, as evidenced by the project's completion of over 146,000 consecutive safe work hours. Nuclear Materials Disposition also exceeded last years shipping goals and is on track to meet or exceed 2000 goals for these shipments.

200K in Y2K - United Way campaign sets challenging goal

After shattering last year's campaign goal by \$20,000, Cincinnati United Way Campaign Chair and Broadwing Communications Vice-President, Barbara Stonebraker, challenged Fernald to take an even bigger role in this year's fund raiser. "Last year we had a fairly new team and we were hesitant to raise our goal above what was set in 1998. But

based on the money we raised for United Way last year and the fact that a majority of the core team is here again, I think we stand a good chance of hitting our \$200,000 goal," said Tina Mefford-Craig, Fluor Fernald campaign co-chair.

Mefford-Craig, who is a member of the Fernald Atomic Trades and Labor Council, will be joined this year by co-chairs Dale Hamblin, vice-president International Guards Union of America and Claude Griffin, Silos Project team coach.

The Fluor Fernald campaign will kickoff on Thursday, August 31 with a company cookout followed by a pledge drive during the first half of September and other fundraisers later in the month. "Again this year we want to show our team members where their United Way dollars go and why it's such a good idea to invest their money back into the community," said Hamblin. "We (Fernald) have always tried to respond to the needs of the community. This year we have a chance to do even more."

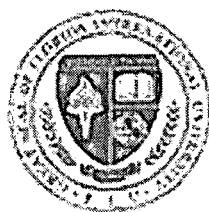


Above: United Way Co-chairs (from left to right) Tina Mefford-Craig; Dale Hamblin and Claude Griffin are eager to kick off this year's campaign (7403-d6).

If you or your company would like to sponsor a hole at this year's Fluor Fernald/United Way golf tournament at Twin Run Golf Course in Hamilton, Ohio on September 16, contact Pat Brennan 513-648-3922. Cost is \$200 and all proceeds benefit United Way. Team registration is now available through the Fernald Credit Union.

Plan to attend the Fernald Health Effects Subcommittee meeting on Sept. 20 from 9 a.m. to 4:15 p.m. and 6 p.m. to 8 p.m., held at The Plantation, 9660 Dry Fork Road in Harrison, OH. For more information, call Mike Donnelly, acting executive secretary, 404-639-2508.

Forging partnerships



FIU

FLORIDA INTERNATIONAL UNIVERSITY

The environmental engineering facilities at Florida International University (FIU) in Miami, Fla. recently had a visit from Fernald officials. University President Modesto Maidique and Dr.

Ali Ebadian accompanied J. Robert Fluor II, Fluor Corp. vice-president of community relations, John Bradburne, president and CEO of Fluor Fernald and Bob Nichols, vice president of Site Operations and Maintenance on a tour of the university's Hemispheric Center for Environmental Technology (HCET).

The center, established in 1995, is an internationally renowned applied science and engineering research and development organization. Administered in part by the U.S. Department of Energy's Federal Energy Technology Center, HCET works in tandem with DOE to advance the deployment of safe, cost-effective environmental technologies.

The visit was to learn more about the center's applied technology programs and discuss applications to the Fernald site remediation work as well as possible commercial applications.

"FIU is recognized as one of the most active universities in developing programs that incorporate diverse technologies for demolition, decommissioning and site remediation," Bradburne said.

Future of Fernald Workshop 3

On Tuesday evening, Sept. 26, 2000, stakeholders are once again invited to attend a workshop on the future of Fernald. The Fernald Citizens Advisory Board, the Community Reuse Organization, FRESH and the Fernald Living History Project invite local residents, regulators, educators, Fernald retirees and all other interested members of the public to attend this meeting, which is the third in a series of workshops designed to gather input on potential public access to Fernald once cleanup is complete. A vision statement and steps for implementation have been prepared for public comment, based on input from the second workshop in May 2000. Possible public-use scenarios, based on the vision statement and other stakeholder input, will also be developed. The meeting begins at 6:30 p.m. and will be held at the Crosby Senior Center, 8910 Willey Road, in Harrison, Ohio. Contact Tisha Patton at 513-648-5277, for additional information.

New documents added to the Public Environmental Information Center

The following information was added to the Public Reading Room, Administrative Record files and Post Record of Decision files at DOE's Public Environmental Information Center (PEIC):

- ☐ Soil and Disposal Facility Project
 - ◇ Report of Demonstrations of Two Geophysical Survey Techniques
 - ◇ Certified for Construction Technical Specifications On-Site Disposal Facility Phase III
 - ◇ On-Site Disposal Facility – Phase III Construction Drawings
 - ◇ Annual Inspection of Leachate Management System
 - ◇ Project Specific Plan for Supplemental Background Soil Study
- ☐ Silos Project
 - ◇ Silo 3 Project Remedial Design Package, Volumes 1 and 2
 - ◇ Remedial Design Work Plan Silos 1 and 2 Accelerated Waste Retrieval Project Site Preparation
- ☐ Aquifer Restoration Project
 - ◇ March 2000 Re-Injection Operating Report
 - ◇ April 2000 Re-Injection Operating Report
- ☐ Miscellaneous
 - ◇ USEPA Letter: 1999 Integrated Site Environmental Report

Note: This does not represent the complete list of new documents added to the PEIC for the month of July. Contact the PEIC, 513-648-7480 for a complete list of new documents.



Fernald Report

Gary Stegner, Public Affairs Officer
U.S. Department of Energy
Fernald Environmental Management Project
P.O. Box 538705, Cincinnati, OH 45253-8705
Telephone: 513-648-3153,
E-Mail: gary.stegner@fernald.gov
Fernald Web site: www.fernald.gov